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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ex parte BARBARA FEBONIO and SANDRO PICCININI

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Appeal 2016-001540[1]
Application 11/566,358
Technology Center 3600

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Before ANTON W. FETTING, MICHAEL W. KIM, and
MICHAEL C. ASTORINO, *Administrative Patent Judges*.

ASTORINO, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1–7 and 9–20
under 35 U.S.C. § 101 as directed to non-statutory subject matter. We have
jurisdiction to review the case under 35 U.S.C. § 6.

We AFFIRM.

STATEMENT OF THE CASE

Claimed Subject Matter

The invention relates generally to automating the process of assigning work units to agents in a call center. Spec. 1, ll. 10–13. Claims 1, 10, and 11 are the independent claims on appeal. Claim 1 is illustrative:

> 1. A method performed by a data processing system comprising a data processor coupled to a memory for automatic assignment of a work unit to one of a plurality of agent queues, comprising:
>
> the data processing system placing incoming work units into a queue, with each of the work units having a first attribute to indicate a ranking among the work units;
>
> ranking the work units that are in the queue based on the first attribute;
>
> assigning each of the work units to a particular one of the plurality of agent queues based on said ranking;
>
> after said assigning, evaluating whether at least one new work unit has entered the queue after said ranking;
>
> responsive to no new work unit having entered the queue after said ranking, consolidating the assignment of the work units to the plurality of agent queues; and
>
> responsive to the at least one new work unit having entered the queue after said ranking, rolling back the assignment and performing again said ranking and said assigning taking into account whether the at least one new work unit has a ranking higher than a predetermined threshold.

OPINION

Independent claim 1 and dependent claim 2

The Appellants argue independent claim 1 and dependent claim 2 as a group. We select claim 1 as representative. *See* 37 C.F.R. § 41.37(c)(1)(iv).

The Examiner rejects claim 1 as directed to an abstract idea that can be performed, except for the recitation of a "data processing system," by human thought. *See* Answer 3.

The Appellants contend that claim 1 is not directed to an abstract idea, because the claim is directed to agent queues, not agents, and because claim 1 recites the use of a data processing system and is "necessarily rooted in computer technology," and because the claims do not pre-empt assigning work to agents. Appeal Br. 7–10; *see also* Reply Br. 2–5.

For the following reasons, we are not persuaded by the Appellants' arguments.

Under 35 U.S.C. § 101, an invention is patent-eligible if it claims a "new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. § 101. The Supreme Court, however, has long interpreted § 101 to include an implicit exception: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *See, e.g., Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014).

In determining whether a claim falls within the excluded category of abstract ideas, we are guided in our analysis by the Supreme Court's two-step framework, described in *Mayo* and *Alice*. *Id.* at 2355 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1296–97 (2012)). In accordance with that framework, we first determine whether the claim is "directed to" a patent-ineligible abstract idea. *See Alice*, 134 S. Ct. at 2356 ("On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.,* the use of a third party to mitigate settlement risk."); *Bilski v. Kappos*, 561 U.S. 593, 611 (2010) ("Claims 1 and 4 in petitioners' application explain the basic concept of hedging, or protecting against risk."); *Diamond v. Diehr*, 450 U.S. 175, 184 (1981) ("Analyzing respondents' claims according to the above statements from our cases, we think that a physical and chemical process for molding precision synthetic

3

rubber products falls within the § 101 categories of possibly patentable subject matter."); *Parker v. Flook*, 437 U.S. 584, 594–595 (1978) ("Respondent's application simply provides a new and presumably better method for calculating alarm limit values."); *Gottschalk v. Benson*, 409 U.S. 63, 64 (1972) ("They claimed a method for converting binary-coded decimal (BCD) numerals into pure binary numerals.").

The patent-ineligible end of the spectrum includes fundamental economic practices, *Alice*, 134 S. Ct. at 2357; *Bilski*, 561 U.S. at 611; mathematical formulas, *Flook*, 437 U.S. at 594–95; and basic tools of scientific and technological work, *Gottschalk*, 409 U.S. at 67. On the patent-eligible side of the spectrum are physical and chemical processes, such as curing rubber, *Diamond*, 450 U.S. at 184 n.7, "tanning, dyeing, making waterproof cloth, vulcanizing India rubber, smelting ores," and a process for manufacturing flour, *Gottschalk*, 409 U.S. at 69.

If the claim is "directed to" a patent-ineligible abstract idea, we then consider the elements of the claim—both individually and as an ordered combination—to assess whether the additional elements transform the nature of the claim into a patent-eligible application of the abstract idea. *Alice*, 134 S. Ct. at 2355. This is a search for an "inventive concept"—an element or combination of elements sufficient to ensure that the claim amounts to "significantly more" than the abstract idea itself. *Id.*

The method of claim 1 is directed to assigning units of work to agent queues. The claim requires that all work units to be processed are put into a working queue, then the queue is ranked based on a "first attribute," and each work unit is assigned to one of several separate agent queues based on the ranking. The claim further requires checking to see if new work units

have arrived, and either consolidates the assignment if no new work units arrive, or repeats the ranking and assigning if new work units arrive. Once the work units are "consolidated" in queues, the method stops.

Consolidation is not described or defined in the Specification. In support of the "consolidation" language, the Appellants direct us to a citation in the Specification, at page 13, lines 9–14, that describes that work unit assignments are "confirmed and consolidated," and to Figure 5, element 550, which indicates assignments are "committed." Appeal Br. 4. We, therefore, construe the claimed "consolidating" to be committing the work units to the assigned queue, thus, ending the method steps.[2]

The method of claim 1, therefore, operates solely to rank and assign work units to queues, which themselves are an abstract concept of things in lines to be processed. *See Queue Definition* 3a, MERRIAM-WEBSTER ONLINE DICTIONARY, https://www.merriam-webster.com/dictionary/queue (last visited July 19, 2017) ("a sequence of messages or jobs held in temporary storage awaiting transmission or processing").

The ranking and assignment, as well as determination of whether new work units have arrived during the ranking and assignment, are steps that can be performed through pure mental thought, because ranking and assigning can be done by thinking about the things to be ranked and assigned to queues. Thus, except for the recitation of the use of the method being performed by a "data processing system," the method can be performed by human mental thought.

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[2] We note that once work units are committed to agent queues, no further action is taken on the work units or queues within the scope of claims 1–7 and 9. In the claims, no agent receives the assigned units of work.

The Federal Circuit has held that if a method can be performed by human thought alone, or by a human using pen and paper, it is merely an abstract idea and is not patent-eligible under § 101. *CyberSource Corp. v. Retail Decisions, Inc.,* 654 F.3d 1366, 1373 (Fed. Cir. 2011) ("[A] method that can be performed by human thought alone is merely an abstract idea and is not patent-eligible under § 101."). Additionally, mental processes remain unpatentable even when automated to reduce the burden on the user of what once could have been done with pen and paper. *Id.* at 1375 ("That purely mental processes can be unpatentable, even when performed by a computer, was precisely the holding of the Supreme Court in *Gottschalk v. Benson,* [409 U.S. 63 (1972)].").

We, thus, conclude that claim 1 is directed to an abstract idea.

Turning to the second step of the *Alice* analysis, because we find that claim 1 is directed to an abstract idea, the claim must include an "inventive concept" in order to be patent-eligible, i.e., there must be an element or combination of elements that is sufficient to ensure that the claim in practice amounts to significantly more than the abstract idea itself.

The preamble of claim 1 recites that the method is performed by a "data processing system." The body of the claim, however, requires only the data gathering step, "placing incoming work units into a queue," to be performed by the data processing system. The data gathering step is insignificant extra-solution activity, and the remaining steps are not explicitly recited as being performed by the data processing system. *See Bilski v. Kappos,* 545 F.3d 943, 963 (Fed. Cir. 2008) (*en banc*), *aff'd sub nom Bilski v. Kappos,* 561 U.S. 593 (2010) (characterizing data gathering steps as insignificant extra-solution activity).

6

The Specification describes that the system "is or includes a data processing apparatus, like a personal computer, a workstation, a mainframe, which among other possible activities carries out the automatic work unit assignment." Spec. 6, ll. 11–14. The Specification also describes the "general structure" of the data processing apparatus to include components such as a bus, CPU, memory, peripheral units, and communications card and/or modem. *Id.* at 6, l. 14–7, l. 14. The Specification finally describes that the invention "can be applied in a data processing system having a different architecture or based on equivalent elements; each computer can have another structure or it can be replaced with any data processing entity (such as a PDA, a mobile phone, and the like)." *Id.* at 15, ll. 27–31.

These descriptions correspond to a general purpose computer made of generic computer components. "[A]fter *Alice*, there can remain no doubt: recitation of generic computer limitations does not make an otherwise ineligible claim patent-eligible. The bare fact that a computer exists in the physical rather than purely conceptual realm is beside the point." *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (Fed. Cir. 2014) (internal citations and quotation marks omitted).

Further, nothing in claim 1 purports to improve computer functioning or "effect an improvement in any other technology or technical field." *Alice*, 134 S. Ct. at 2359. The Appellants *assert*, without evidence, that the method operates to "improve the functionality of the data processing system itself," (Appeal Br. 9; *see also* Reply Br. 4–5), apparently by merely performing operations and checking to see if new data arrived during processing. This is unpersuasive, because merely having a computer perform its operations does not improve the functioning of a computing system itself.

Because claim 1 is directed to an abstract idea, and nothing in the claims adds an inventive concept, claim 1 recites ineligible subject matter in the form of an abstract idea. For this reason, we affirm the rejection of claims 1 and 2 under 35 U.S.C. § 101.

Dependent claims 3–5

Dependent claim 3 recites:

> The method according to claim 1, further comprising:
> - for each of at least two agents, defining a respective productivity indication adapted to indicate a productivity of the agent,
> wherein said assigning the work units is further based on said productivity indication.

The Appellants argue that the language of claim 3, that refines queue assignment, is "not mere instructions to implement an abstract idea on a computer, but is a specific step/action *that describes how the work units themselves are actually assigned to 'queues'.*" Appeal Br. 10.

We are not persuaded by the Appellants' argument, because describing "how" a step can be accomplished, such as by further limiting the method to include a productivity indication used in an assignment step, does not alter the outcome that the entire method still can be performed purely through mental thought, and is, thus, an abstract idea. For this reason, we sustain the rejection of claim 3 under 35 U.S.C. § 101, as well as dependent claims 4 and 5 that depend from claim 3 and were not separately argued.

Dependent claims 6, 7, and 9

For each of dependent claims 6, 7, and 9, the Appellants argue essentially the same thing as advanced for claim 3, namely that describing

"how" to perform an additional limiting step (such as adding a second attribute about competencies required, and a comparison of competencies available to those required, as in claim 6), transforms the abstract idea into patentable subject matter, because it is "not mere instructions to implement an abstract idea on a computer." Appeal Br. 11–13. We are unpersuaded for the same reasons as at claim 3, above.

Independent claim 10 and dependent claim 12

Independent claim 10 recites a system with "a data processor coupled to a memory and operable to execute instructions stored in the memory to perform steps of" the method recited essentially identically as in claim 1.

The Appellants argue the claim "recites additional elements that are not mere generic computer structure that performs well-known generic computer functions." Appeal Br. 13. However, the only language related to the computer structure is "a data processor coupled to a memory," which, as above, we find describes a generic computer.

We find no meaningful distinction between independent method claim 1 and independent system claim 10. The claims each are directed to the same underlying invention. As the Federal Circuit has made clear "the basic character of a process claim drawn to an abstract idea is not changed by claiming only its performance by computers, or by claiming the process embodied in program instructions on a computer readable medium." *See CyberSource*, 654 F.3d at 1375–76 (citing *In re Abele*, 684 F.2d 902 (CCPA 1982)).

The Appellants also argue that the functions performed by the system are not generic or routine, because there is no pending art rejection over the

claim. Appeal Br. 13. This argument is not persuasive, because the novelty or non-obviousness of functions performed does not affect the analysis of whether the functions can be performed entirely through mental thought, and are, thus, merely abstract ideas.

For these reasons, we sustain the rejection of independent claim 10 under 35 U.S.C. § 101, as well as dependent claim 12 that was not argued separately.

Independent claim 11

The Appellants repeat the same arguments for claim 11 as those advanced for claim 10. Appeal Br. 13–14. We are unpersuaded for the same reasons as we did for claim 10, and, therefore, sustain the rejection of claim 11 under 35 U.S.C. § 101.

Dependent claims 13–20

The Appellants advance for each of claims 13–20 essentially the same argument advanced for dependent claim 3, that the limiting steps are not merely instructions to perform an abstract idea on a computer, but instead describe "how" the method is performed. Appeal Br. 14–19. We are unpersuaded for the same reasons as for claim 3, and, therefore, sustain the rejection of claims 13–20 under 35 U.S.C. § 101.

DECISION

We affirm the rejection of claims 1–7 and 9–20 under 35 U.S.C. § 101.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED